

DETAILED ACTION***Response to Amendment***

1. Applicant's amendment filed on July 20, 2009 has been considered. Claims 1-65 are cancelled. Claims 66-72 are new.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 66-72 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

In claim 66, the newly added limitations, "wherein said first reaction zone diameter and said first reaction zone height configured to provide a first reaction zone time of 0.8 to 1.5 seconds" (in lines 19-20) and "wherein said outlet zone diameter and said outlet zone height are configured to provide an outlet zone reaction time of 0.5 seconds to 0.8 seconds" (in lines 43-44) do not appear to be supported by the original disclosure. As noted from the disclosed Examples, only discrete values for reaction times are stated in the Tables:

	Table 3	Table 5	Table 7	Table 8	Table 10
1st reaction zone reaction time (sec)	1.0	0.8	1.0	1.5	0.8
Outlet zone reaction time (sec)	0.5	0.6	0.6	0.8	--

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The Examiner is unable to locate any discussion of specific ranges for the reaction time within the first reaction zone or the outlet zone. Therefore, it appears that the disclosure does not support the claimed ranges of reaction times for the first reaction zone and the outlet zone.

Allowable Subject Matter

3. Claims 66-72 would be allowable if rewritten or amended to overcome the rejection under 35 U.S.C. 112, 1st paragraph, e.g., by deleting the limitations “wherein said first reaction zone diameter and said first reaction zone height configured to provide a first reaction zone time of 0.8 to 1.5 seconds” (in lines 19-20) and “wherein said outlet zone diameter and said outlet zone height are configured to provide an outlet zone reaction time of 0.5 seconds to 0.8 seconds” (in lines 43-44).

The prior art does not disclose or adequately suggest a riser reactor comprising, in order from the reactor bottom, a prelift zone, a first reaction zone, a first conjunct section, a second reaction zone, a second conjunct section and an outlet zone, wherein, in particular, each of the zones/sections has dimensions specifically set within the claimed ranges, namely—

a prelift zone having a diameter of about 0.02 m to about 5 m, and a height of about 5% to about 10% of the riser reactor height;

a first reaction zone having a diameter, wherein the ratio of the first reaction zone diameter to the prelift zone diameter is about 1:1 to about 2:1, and a height that is about 10% to about 30% of the riser reactor height;

a first conjunction section having a vertical section isotrapezia vertex angle of about 30° to about 80°;

a second reaction zone having a diameter, wherein the ratio of the second reaction zone

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diameter to the first reaction zone diameter is about 1.5:1 to about 5:1, and a height that is about 30% to 60% of the riser reactor height;

a second conjunct section whose vertical section isotrapezia bas angle is about 45° to about 85°; and

an outlet zone having a diameter, wherein the ratio of the outlet zone diameter to the first reaction zone diameter is about 0.8:1 to about 1.5:1, and a height that is up to 20% of the riser reactor height;

wherein the riser reactor height is about 10 m to about 60 m, and the specific dimensioning and arrangement of zones/sections allows for a total reaction time of 2 to 30 seconds within the riser reactor during a fluidized catalytic conversion process.

Response to Arguments

4. Applicant's arguments with respect to claims 66-72 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

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CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to JENNIFER A. LEUNG whose telephone number is (571) 272-1449. The examiner can normally be reached on 9:30 am - 5:30 pm Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Walter D. Griffin can be reached on (571) 272-1447. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jennifer A. Leung/
Primary Examiner, Art Unit 1797